USER GUIDE FOR NETmc MARINE DVR Inspector System

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Contents

Section	Description	Page
1	Introduction	3
2	System description	4
2.1	Hardware description and connections	4
2.2	Installation of Inspector with removable drive	5
3	Operating Instructions	6
3.1	Startup and main controls	6
3.2	The Set-up Page	10
3.3	Making a recording	14
3.4	Replaying the video	16
3.4.1	Using Windows Media Player™	16
3.4.2	Using the NETmc Marine “Viewer”	16
4	FAQS	19
5	Appendices	20
	Appendix i – Technical specifications	21
	Appendix ii – Definitions & Abbreviations	22
	Appendix iii - Main controls	23
	Appendix iv - Keyboard short cuts	24
	Appendix v - COABIS interface	25
	Appendix vi – Recording to a networked Server / NAS	28
	Appendix vii – mediaNET dispatcher settings	29
	Appendix viii – Real time file duplication	31
	Appendix ix – Example Coabis Interfacing Diagrams	32
	Appendix x – Integrated overlay configuration	35

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1 Introduction

NETmc Marine specialises in the design and manufacture of Digital Video Solutions for the offshore market and has produced a range of digital video acquisition systems ranging from single channel digital video recorders to bespoke multi-channel systems for online data management and retrieval.

The entry-level recorder is the DVR-Inspector, a single channel digital video recorder, designed to replace the standard VCR in offshore applications such as ROV inspection surveys. The DVRi is built in to a 19” rack mountable housing and accepts a variety of video inputs, storing the data directly on to a hard drive, be this fixed internally, removable or an external drive connected to the DVRi via Firewire or USB.

The DVRi can be supplied with MPEG1, MPEG2 or MPEG4 encoder boards. Within each format the bit rate can be varied depending on the quality of the video required.

In its basic operational mode the DVRi can simply be used as a replacement for a VCR, it is easy to use and has a straightforward set-up screen and recording controls.

However the DVRi can also be linked to a network so the video can be shared with several people, or even controlled via a navigation package utilising the NETmc Marine tool kit.

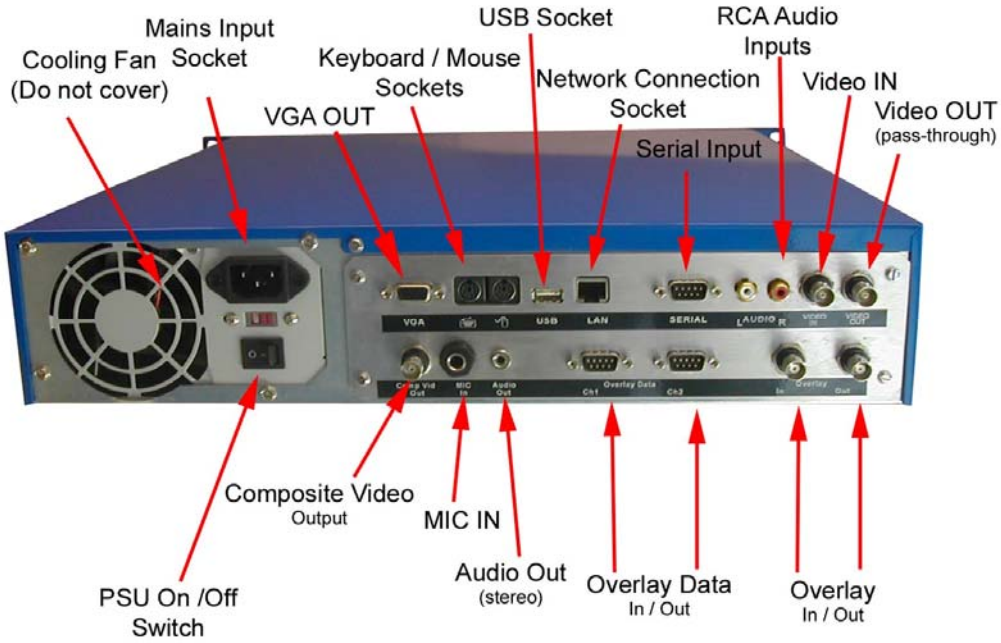
Digital video recording is set to become the industry standard for video storage and the DVRi is set to become the industry standard DVR.

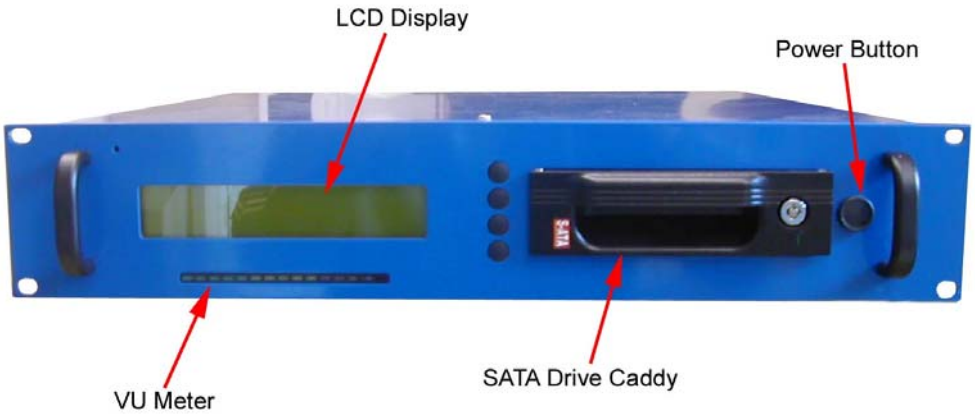
2 System Description

2.1 Hardware Description and Connections

The DVRi is a single channel rack mountable recorder running on a Windows 2000 platform. It is housed in 2U high casing and encompasses a removable hard disk drive accessed via the front panel; other hard drive options are available. All connections to the recorder are on the rear panel as shown below, as is the on/off button for the internal power supply unit and the cooling fan outlet. The power supply switch must be in the on (1) position for the recorder to function; it is good practice, but not essential, to switch the internal power supply off when the recorder is not in use.

On the front panel of the recorder is found the main ON button, the receptacle (where fitted) for the removable drive and a small screen beside which there are 4 black buttons, these buttons are for the control of the menus that are displayed on the screen. These screens are primarily displaying status indicators and so, under normal circumstances, the operator need not concern themselves with them.





2.2 Installation of Inspector with removable drive

1. Install the DVRi in a 19” rack giving consideration to the height at which the unit is mounted to facilitate the easy removal of the hard drive.
   Note1: It is essential that sufficient space be allowed behind the recorder to allow the power supply-cooling fan to function correctly.
   Note2: If networking the DVRi, all network connections must be made and the network be **live** before switching on the DVRi, otherwise no streaming video will be available.

2. If the video signal is first being routed via a composite monitor, ensure the impedance switch on the monitor is set to **open**, otherwise no picture will be seen on the DVRi screen.

3. Make all the necessary connections at the rear of the recorder, including power cable, keyboard and mouse; the required connections will vary depending on the video signal being input, display devices being used etc.

4. Switch on power supply at rear of recorder, position 1.

5. Insert a hard drive in to the receptacle at the front of the machine. Do this GENTLY. Although the drives are ‘Hot Swappable’ we advise that drives are only inserted or removed when unit is powered OFF.

6. Press the “power on” button on the front panel. The two LEDs on the front of the removable drives should be on. The Green LED is a power indicator and the Red LED is a status indicator for the fan, if the Red LED is on the fan is OK, if it is blinking then the fan is not working correctly.

   Note: This is **not** a “power off” switch.

(To power down the recorder, use the normal Windows “shut down” procedure e.g. close all open windows, click on start, select shut down and click OK. Windows and the recorder will now shut down correctly.)

3 Operating Instructions

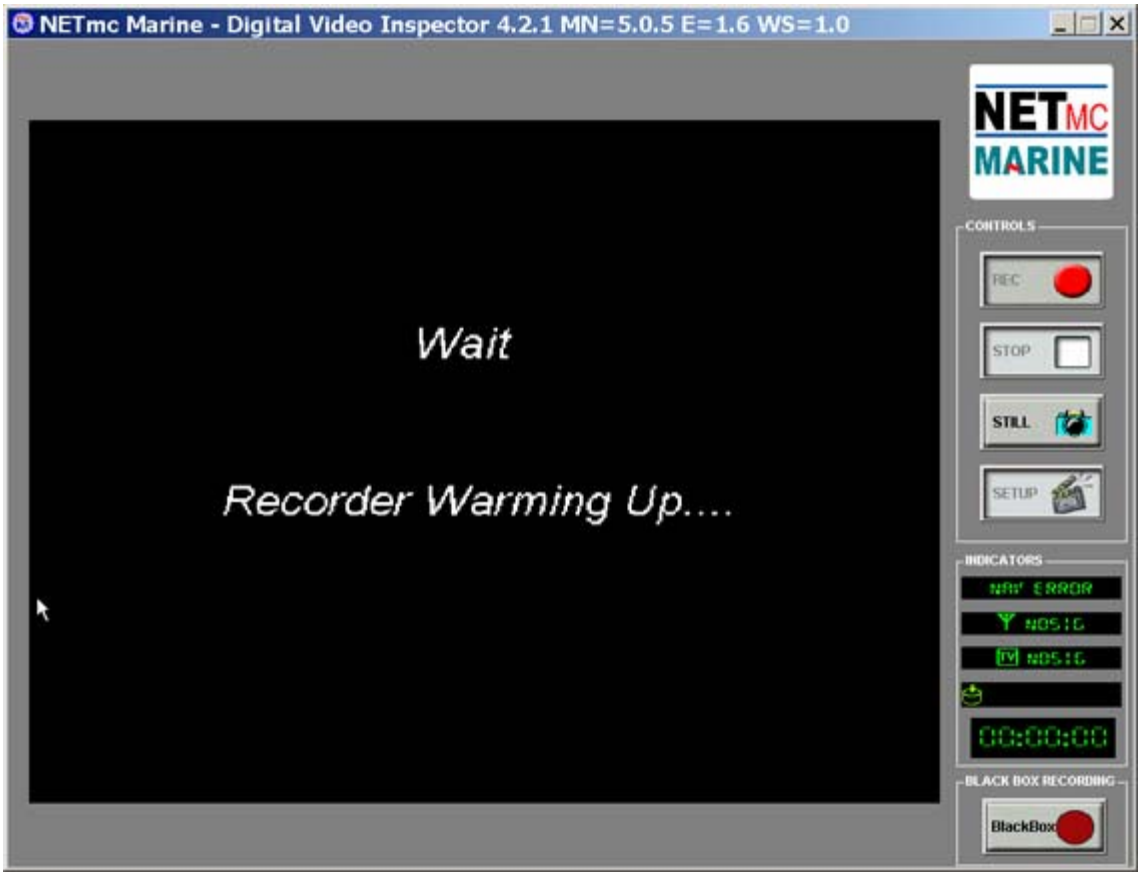
3.1 Start-up

The DVR-Inspector software runs on a Windows 2000 or XP professional installation.

The software suite will start automatically upon system boot.
If for any reason this does not happen, or if the software has been closed down by a previous user, the application can be launched by double clicking the NETmc, DVR-Inspector icon on the desktop:

Windows Desktop

On initial power-up, the software will display the message below.



Splash screen

Main Controls

All the operation controls are displayed when the program is started.
To familiarise you with them, they have been labelled overleaf:

Black Box Recording

Black box recording is an optional extra. This option allows a separate, continuous recording of the whole operation, for example for health and safety purposes, independent of whether the video is currently recording. This button will only be enabled if you have purchased the Black Box option.

The following images indicate whether the Black Box is enabled or not:

ENABLED

DISABLED

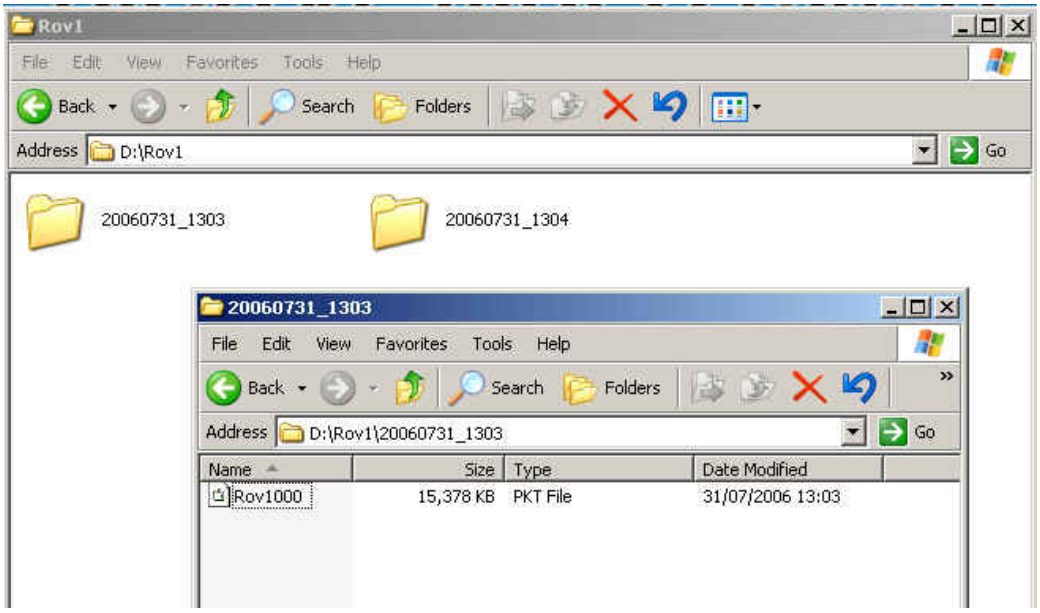
Recording

If the Black Box option is enabled, clicking on this button will start recording. The button will now look like this:

Recording is also indicated by the presence of a green tick in the status bar:

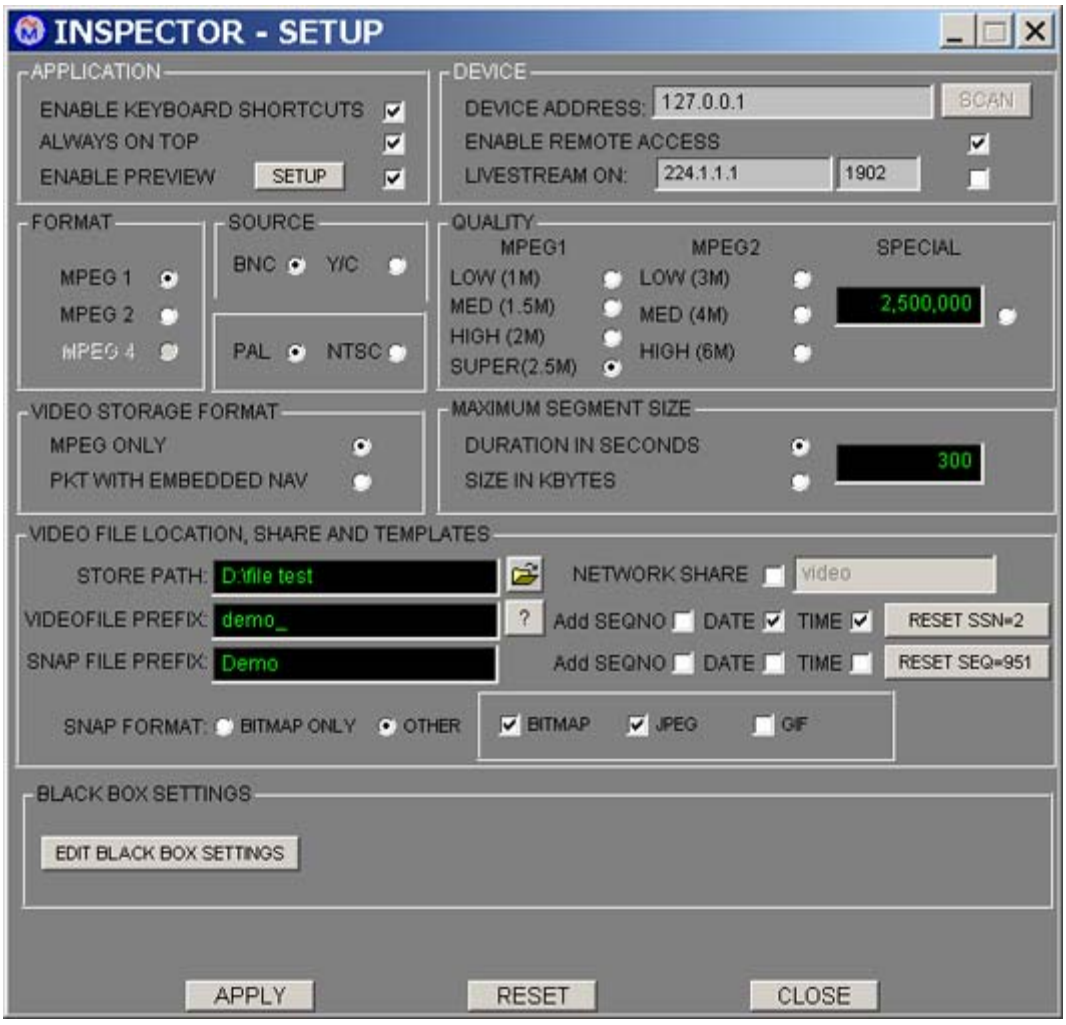
Unless otherwise arranged, the Black Box will record to a separate 120 gigabyte hard disk drive called the D: Drive. Depending on the quality settings chosen, the Black Box allows continuous recording for between 33 hours (highest quality settings) and 213 hours (lowest quality settings.)

Black Box files are automatically saved under the time and date recorded and can be accessed through Windows.



3.2 Set-up Page

After clicking the SETUP button you will see the following screen. Here you can configure the recorder; setting the video format and compression rate, the length or size of the video files (PKTS) and allocating the storage path and file names.



The set-up settings of the DVRi can be changed, however the unit will have been shipped from the factory configured with the optimal settings for your application– it is recommended that these be left as shown above (settings for MPEG1) or at least a note is made of them to enable the unit to be configured as it was when it left the factory.

A description of each parameter in the set-up screen is given below:

Application:
Enable keyboard Shortcuts – this enables or disables the use of keyboard shortcuts. See appendix (iii) for a list of short cuts.

Always on top – keeps the video recorder display on top of any other windows that may be open
Enable Preview – automatically starts the live video on start-up

Grey "SETUP" box – this is for engineer configuration only

Format:
MPEG1 – Select to record in MPEG1 format
MPEG2 – Select to record in MPEG2 DVD format. This option is only available if there is a suitable encoder installed
MPEG4 – Select to record in MPEG4. This option is only available if there is a suitable encoder installed

NOTE: The selection of the format does not just depend on the quality of the video you want; consideration should be given to how you will view the data at a later date. For instance should you wish to view the data over the Internet then you may wish to use the lowest compression rate available.

Source:
BNC – Click this if video is coming in via the BNC connector on the rear panel i.e. Composite input.

Y/C – Click this if video is coming in via the Y/C connector on the rear panel

PAL – Click here if input video is in the European format PAL

NTSC – Click here if input video is in the American / Asian format

Video Storage Format:
MPEG only – This setting will only record raw mpeg files

Pkt with embedded nav – With this option enabled, and a Navigation string being input to the recorder, each MPEG file will be tagged with positioning data, this then enables the video to be integrated in to a GIS system at a later date.
Note: For ROV structural inspections there is no benefit to ticking this box as generally there is no acoustic positioning data available.

Device:
Enable Remote Access – Allows network control
Device Address – Required for network mode
Livestream Port – Allows other networked PCs to view video live. This option is switchable as some networks might not be able to handle streaming video.

Quality:
Allows selection of bit rate – as specified in procedure or by experiment

Maximum Segment Size:
Each section of video recorded can be broken down into discreet video clips to aid reviewing and managing the files. These sizes of each clip can be set by time or volume of data. Should you wish to be able to download a file to a certain type of media e.g. a floppy disc, then you would select file size as the controlling factor and set the size to fit your disc.

If on the other hand you wish to store the video by time then select that option and put in the number of seconds you want the file to be.

The size of file chosen will depend very much on the project in hand, but should probably be no less than 5 minutes; otherwise the number of files recorded may become excessive and difficult to manage.

Video File Location, Share and Templates:

Store Path – This is the location that your video files will be stored. The default location for the removable device is “D”.

Videofile Prefix - Adds a chosen name or auto variable to the video file Select “?” for list of auto name options – see appendix 2

Snap File Prefix – Adds a chosen name to the still image grab

Add Seqno – Adds an incrementing number to the file name

Date – Adds the current date to the file name

Time – Adds the current time to the file name

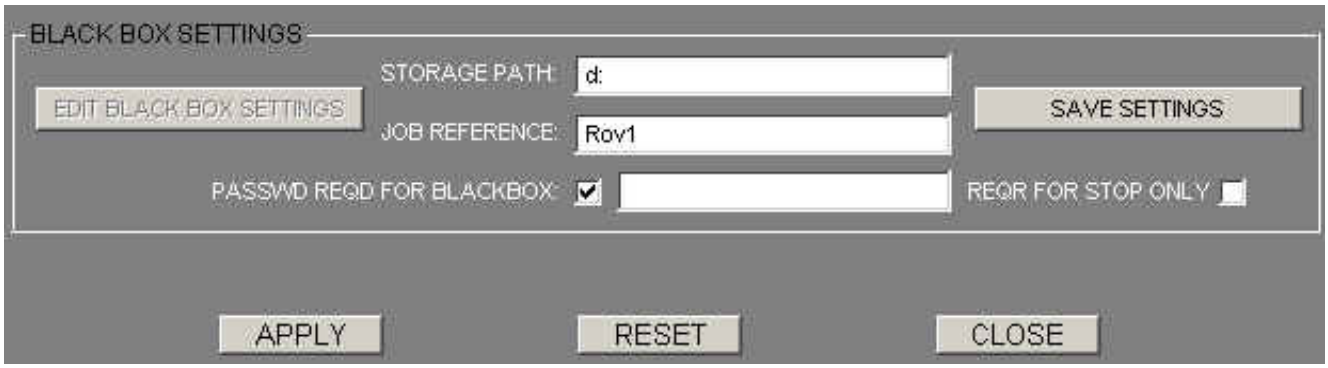
Reset ssn=1, reset seq=0 – Reset auto increment numbers

SNAP FORMAT – The default stills format is Bitmap, however it is possible to record the stills in GIF or JPEG format which makes smaller file sizes. To select an alternative to Bitmap, click the radio button ‘OTHER’ and then select the relevant tick box.

SHOW STATUS INFO SCREEN WHEN SNAPPING – When a still is taken you can make the recorder indicate to you that a still is being taken, this momentarily interrupts the video signal, however it DOES NOT stop the recorder recording video. If you do not want to interrupt the onscreen video DO NOT tick the box.

Black Box Settings

If you have purchased the Black Box recording option, clicking this box enables you to modify the relevant settings.



Storage Path - Unless otherwise arranged, the default storage location is the d: drive and should not be changed.

Job Reference - This would ideally refer to the general operation (e.g. diver, ROV) and not a specific task.

Password - A password can be entered here to prevent accidental switching on or off of the Black Box recording, or if the “Reqr for Stop Only” box is ticked, to prevent accidental switching-off only.

Options at bottom of Set-up Page

Apply – applies the changes

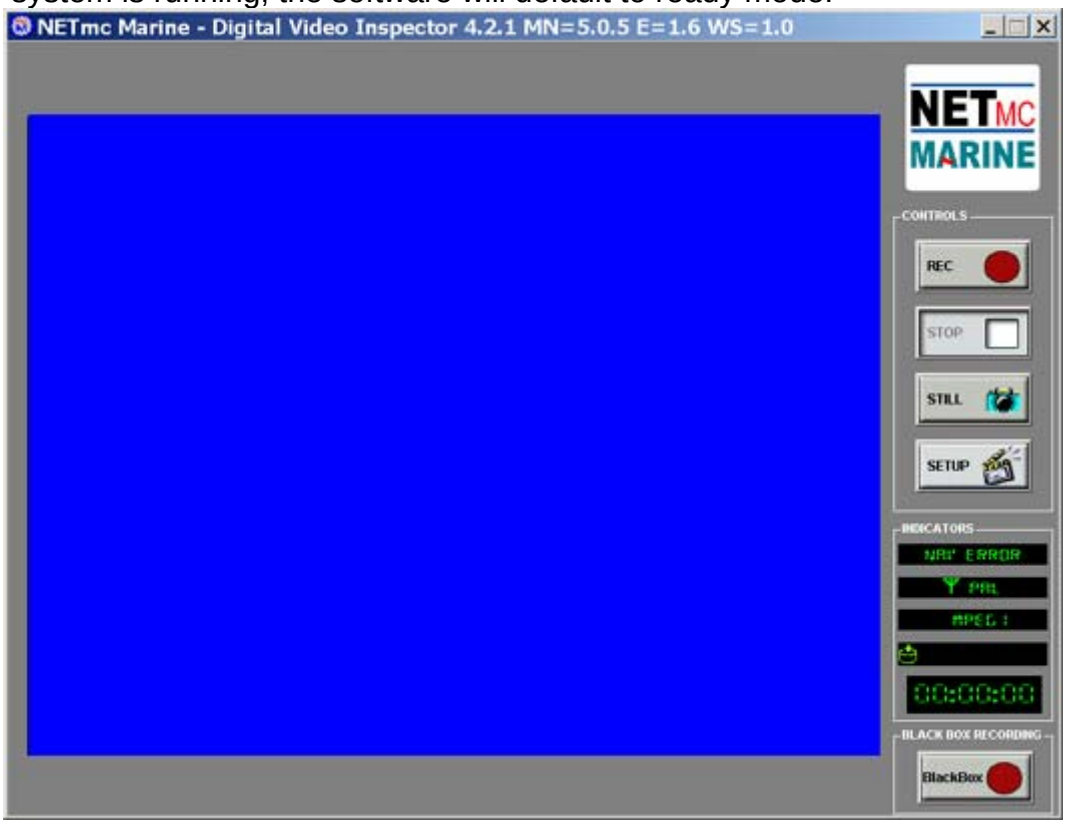
Reset – Undoes any changes you have made during the current visit to the set-up screen

Close – Closes the SETUP window

Once the system has been configured click on the “CLOSE” button to return to the main control screen where you can begin recording.

3.3 Making a Recording

Once the system is running, the software will default to ready mode.



With no video signal, the preview screen will appear BLUE (as above)

With a signal applied, the video will appear in the preview window. (below)

To start the recording, simply press the RECORD button.

When recording has started, the button will become depressed and the minute counter will start to increment.

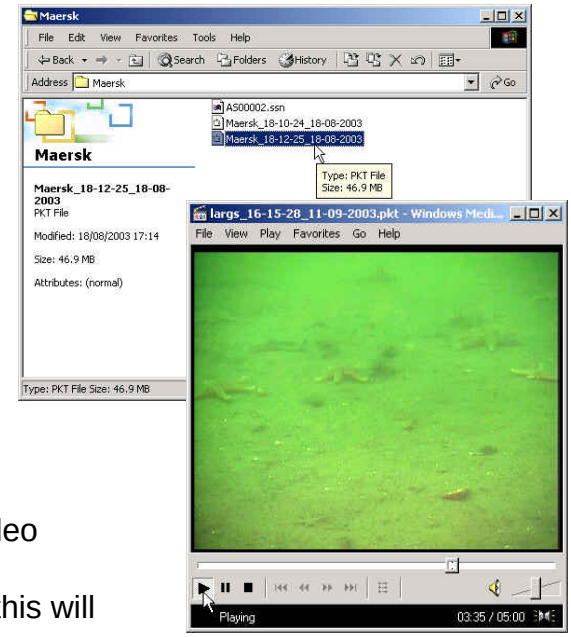
Once the desired footage has been recorded, simply press the STOP button to end recording.

At any point during the recording or preview, the image on the screen can be saved as a bitmap file by clicking the STILL button.

To resume logging, simply click the RECORD button again.
The system will automatically create a new file, automatically named as per the configuration in the SETUP page.

3.4 Replaying the data

3.4.1 Using Windows Media Player™



Assuming the video was recorded to a removable drive you will need to insert the drive in to the USB caddie and connect this to your PC. Once the storage unit is connected to the USB port of your PC, you may be asked to install a driver to allow the drive to be seen, this is available on the CD supplied with the Caddie, insert the CD provided in to your computers CD drawer and follow the on screen instructions.
Once installed, the storage unit will appear as an additional drive on “My Computer” or file explorer, once installed –

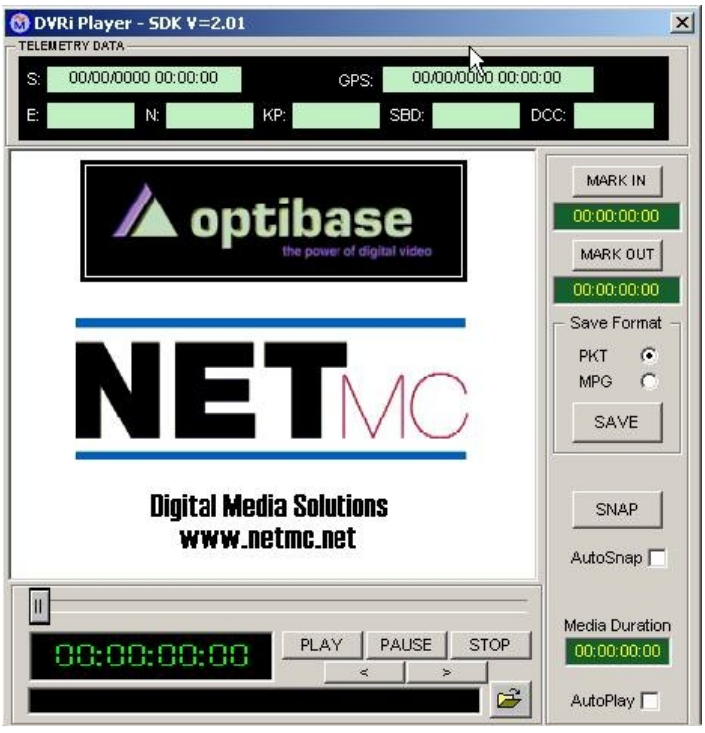
- Go to the Desktop
- Click on “My computer”
- Click on the drive to which you are storing the video
- Open the video folder there
- Double click on the video file you wish to check; this will automatically open up in Windows Media Player

NOTE: Using Windows Media Player it will only be possible to play one video file at a time.

3.4.2 Using the NETmc Player

Another way to view the video is with the NETmc Marine viewer. You will be provided with a CD containing the NETmc viewer, insert this into your PC and follow the on screen instructions (or manually click setup.exe) to install.

To use the special player, click on the “3HEAD PLAYER TOOL” short-cut. (This is called the 3 head player as it can be used with our 3 channel DVR PRO as well).

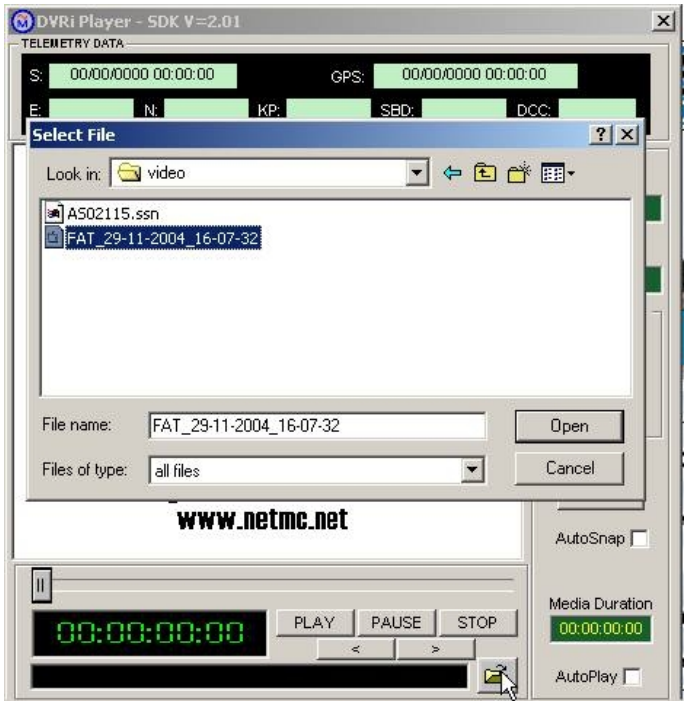


You now have access to a very powerful viewer and editing software package which can play multiple contiguous files and edit across them using the “MARK IN” and “MARK OUT” buttons. This edited video can then be saved as a new file.

There is also the facility to take additional “SNAPS” during review.

Across the top of the viewer is where navigation data is displayed, if there is any attached to the video.

To open a video file, click on This will open an explorer style dialog box from which you can select a file to be played. To select the video file you want, highlight it and then clicking “OPEN”. Another way of the selecting the file is to click on it and drag it over the 3Head viewer. When you select a video file the file name appears in the window beside the open folder icon.



If you wish to play back more than one continuous video file follow theses steps;

1. Click on the first file you wish to play
2. Hold down the shift button and use the down arrow key to highlight the files you wish to play together.
3. Click and drag these files over the 3Head player.
4. Release the mouse button and the files will drop in to the player.

Note: when you select more than one file, the file name display window will display a temporary file name as it cannot display all the files being viewed.

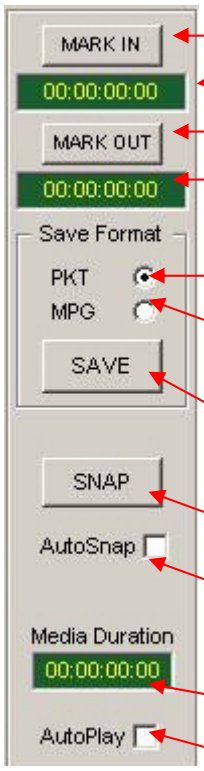
After selecting OPEN the file manager will disappear and the player will display a black screen ready to play the video, note the file name in at the bottom of the player screen.

To start, stop, pause, fast forward or fast backward the video use the player controls near the bottom of the screen.

With the video playing, you will see the progression bar move along the slider. The speed that this moves depends on the size of the video file selected in the SETUP screen of the DVRi.

As the video plays you can use the editing controls to start cropping the video or just to take a still.

Here is a description of the editing controls and displays



Click here to start the new clip

This shows the time of your mark in point

Click here to end the clip

This shows the time of your mark out point

If you save the file as a PKT then, to play it back on a Windows Media Player, you need to change the extension from .pkt to .mpg, otherwise it will not play.

If you save the file as MPG you will be unable to re-edit it in the 3HEAD PLAYER or play it back in a GIS system.

Click here to save the clip in the selected format.

Click here to take a still, name it and select a location.

Tick this box for the system to name the and store the clip

This clock tells you the length of the clip.

Tick this box if you want your video to start playing automatically upon selection

4 FAQs

Q. “When the system starts – there is no picture on the screen, just green noise”

A. *This is because the camera is not outputting a signal.*

Q. The screen is completely black.
A. *Check that you have not selected MPEG2 on a box that only has MPEG1 encoder installed.*

Q. The viewing screen has reduced in size when I go to Windows and back again.
A. *This is a Windows derived problem. Shut down the NETmc Marine application and re-launch.*

Q. When I try to play back my video clips in Windows Media Player it does not play.
A. *Check that the Extension to the file is mpg, if it is .pkt then change it to mpg.*

Section 5

APPENDICES

Appendix i
Technical Specifications

Power Requirements	100 - 260 Vac, 50 - 60 Hz
Power Consumption	180w
Operating Temperature	10 - 35 Degrees
Non-operating Temperature	-10 - 60 Degrees
Operating Humidity	5-95% RH non-condensing
Non-operating Humidity	5-95% RH non-condensing
Operating Shock (read)	65G, 2ms
Non-operating Shock	250G, 2ms
Operating Altitude	-305m – 3,050m
Non-operating Altitude	-305m – 12.200m
Operating Vibration	Linear 20-300Hz, 0.75G (0 to peak) Random 10-300 Hz, 0.004g2/Hz
Non-operating Vibration	Low frequency 5-20 Hz, 0.195 inches (double amplitude) High frequency 10-300Hz, 5.0G (0 to peak)
Dimensions	482(W) x 88.5(H) x 455(D) (2U case)
Weight	15kg
Video Input	Composite (BNC) / S-VHS (4-way mini Din) PAL / NTSC
Video Stream Format	MPEG1 / MPEG2 / via codec MPEG4
Video Rate	500 kbps - 6 Mbps
Audio	Analog stereo line input
Network Support	10 / 100 Base T
Serial Ports	External Firewire / USB2 drives 9 Way D-Type for serial navigation

Storage and shipping

After overnight road freight the units should be left at room temperature for 24 hours before powering on.

After air freighting the units should be left at room temperature for 48 hours before powering on.

Appendix ii
Definitions & Abbreviations

Definitions

DVRi	DVR Inspector Single Channel Digital Video Recorder

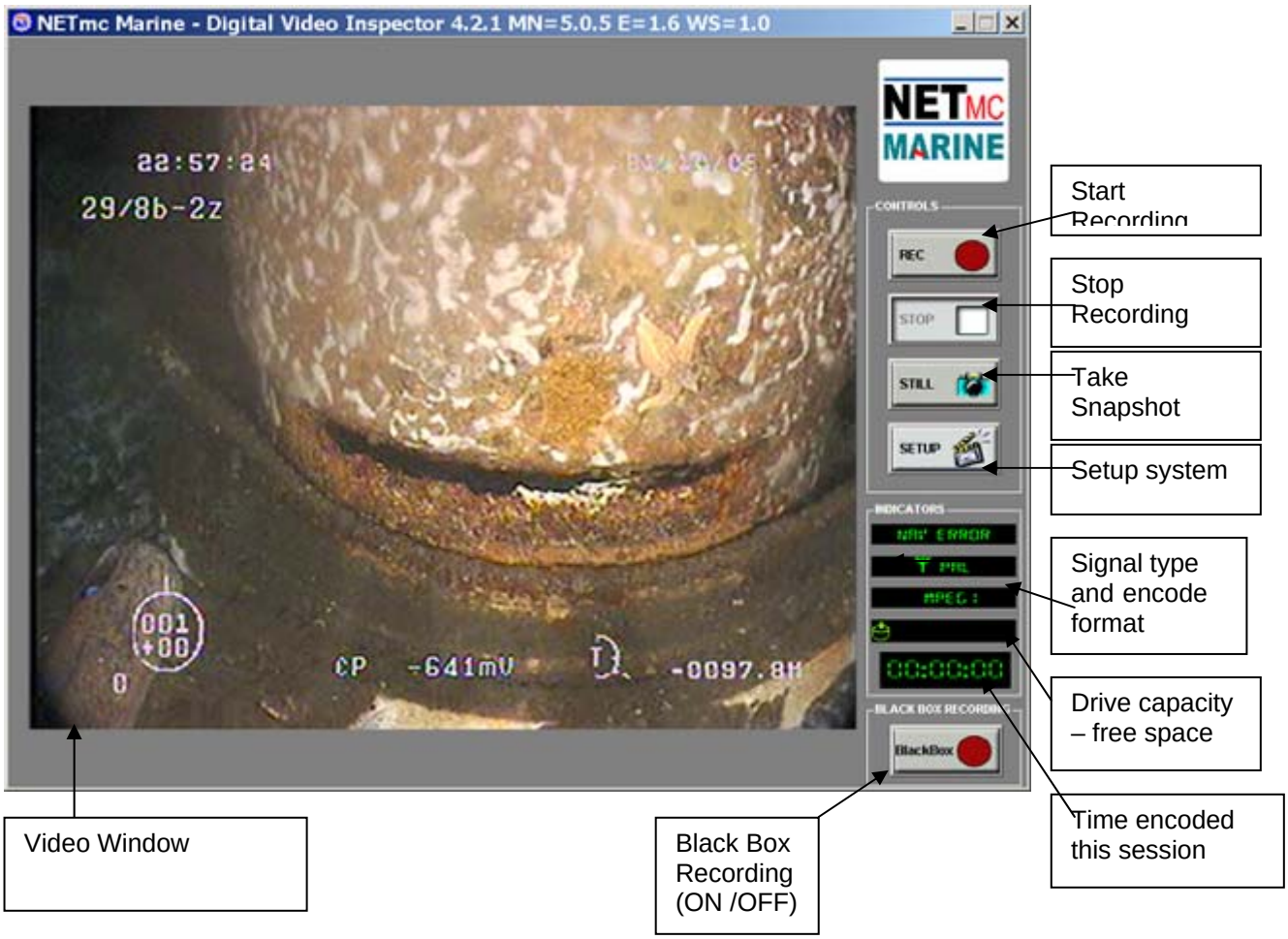
Abbreviations

ASCII	American Standard Code International Interchange
DB	Database
DLT	Digital Linear Tape
DRS	Digital Review Suite
DVR	Digital Video Recorder
HTML	Hyper Text Mark-up Language
MPG	Moving Pictures Expert Group File extension for a video file
MPEG1	Industrial recording format, controlled by the Moving pictures expert group Playable on all Windows operating systems win95 ->
PKT	Packet File Extension
PAL	Phase Alternation by Line – the European video format
NTSC	National Television Standards Committee – American / Asian video format
JPEG	Joint Photographic Experts Group
Mbps	Mega bits per seconds – rate of video encoding
QC	Quality Control
USB	Universal Serial Bus
Store path	Local on hard-disk where the video will be placed
SVHS	Super Video Home System
TIFF	Tagged Image File Format

Appendix iii
Main controls

After the splash screen the normal review screen, see below, will be displayed. All the operation controls are displayed when the program is started. From here you can start and stop recording, take clips and enter the set-up screen. The video displayed is the video that has been already stored on the hard drive so it is not real time

The display also shows several bits of information including the amount of hard drive still free and the signal type and encoder format.



Appendix iv
Keyboard short cut

ShortCut Key	Function
R	Record
S	Stop
Spacebar	Snap

Appendix v
COABIS Interfacing

This section explains how to configure the Coabis digital video interface for the NETmc Marine DVR Inspector hardware. There are 2 parts to configuring the interface. First, you must connect and detect the encoder. Secondly, you must define where routine and anomalous video footage and still images are to be stored, and which applications are to be used to display the clips and images.

Hardware setup
To command a DVRi from a Coabis system you will need:

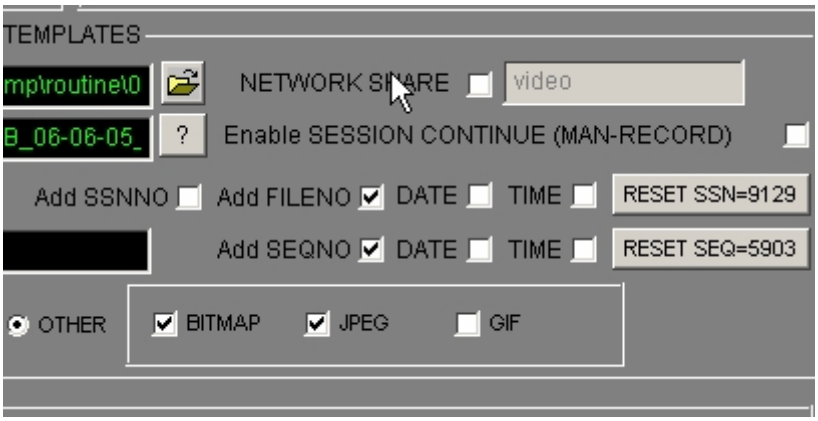
- A PC to run Coabis
- A network card in that PC
- An IP address on your coabis machine in the same range as the DVRi
- A cross-over network cable (or hub/switch and 2 cables) to link PC & DVRi

Once you have Coabis installed on your PC – connect its network cable to the DVRi – either via a cross-over cable, or by using a network hub/switch.
Set the IP address of the Coabis box to be in the same range as the DVRi.
Typically, DVRi units will have an IP of 192.168.1.serialno (i.e. serial number 37 will be 192.168.1.37) and a subnet mask of 255.255.255.0.
The coabis PC should have the same subnet and its IP address should start with 192.168.1.? – with ? being anything which is not already in use on the network – and not the same as the DVRi.

If your Coabis PC is also part of a corporate IT network – you may need to get a second network card installed – alternatively you can configure the DVRi to join the corporate network. *Permission and settings must be granted by your IT manager - consult them or NETmc Marine for more advice.*

Configuring the Encoder

On the encoder, run the DVRi Setup shortcut. From the DVRi set-up screen, ensure the following are set:
AddFileNo, AddSeqNo option MUST be checked.
Date: Both Date options MUST be unchecked.
Time: Both Time options MUST be unchecked.
The video output format and quality settings are at the discretion of the end-user.



The coabis PC and the DVRi must be able to view the storage location for the digital video. Therefore, if the video being stored to the DVR is internal or caddie drive – these must be "shared" so others can see them over the network,
This is done by using the windows explorer on the DVRi and simply 'right-clicking' the drive you wish to share. Select "Sharing" – enable sharing and enter a share name of your choice. When setting up paths to this location within Coabis, use the UNC naming convention – which is two back-slashes then the IP address of the unit with the share then back-slash the share name. We recommend the share name is "Coabis" e.g.
\\192.168.1.37\coabis

Configuring Coabis

1. Connect the digital video encoder following the manufacturer's instructions, and the "Configuring the Encoder" instructions above.

2. Click Tools > Digital Video Setup from the Site module menu.

3. Enter data as follows:

Digital Video Encoder: Select Mnet from the drop-down list.
IP Address: Enter the IP address of the digital video encoder.
Digital Video Encoder Connected: If the encoder is already connected, this box is checked.

4. Click Test to check the connection. If the connection fails, check that the IP address has been entered correctly, and that all the connections are securely attached.

Defining the Templates

All digital video footage and still image grabs must belong to a pre-defined Coabis template, as defined in Baseline > Basics > Templates. The template codes are user-defined, but they MUST be defined before the digital video interface will work. You need 2 template codes covering: digital video and digital video still image grabs. For example:
DV: Digital Video
DVG: Digital Video Still Image Grabs
Add these templates in Baseline > Basics > Templates, with appropriate applications to display the clips or images – e.g. Windows Media Player for clips.

Defining the Directories

You must also define where digital video files (both clips and still image grabs) are to be stored. You will need 3 directories: routine digital video; anomalous digital video; digital video still image grabs. (typically "routine", "anoms" and "grabs")
The location of the directories is user-defined. However, for routine digital video especially, file sizes will be considerable (several gigabytes at least), so check that you have enough space.
Define these directories in Baseline > Basics > Directories.

Video Set-up

On the Digital Video Set-up Video tab, enter data as follows
Template: From the drop-down list, choose the template code you defined for digital video.
Save Path Routine Video: From the drop-down list, select the directory code you defined for routine digital video.

Save Path Anomaly Video: From the drop-down list, select the directory code you defined for anomalous digital video.

Grabs Set-up
On the Digital Video Set-up Grabs tab, enter data as follows
Grabs Template: From the drop-down list, choose the template code you defined for digital video still image grabs.
Grabs Save Path: From the drop-down list, select the directory code you defined for digital video still image grabs.

Appendix vi
Recording to a networked Server / NAS

Sometimes, it may be more desirable to save digital video data to a central network available storage facility – rather than storing the data locally on the DVRi (either on its internal disk or on its caddie drive).

Examples of network storage can be
A NAS box
A server with storage attached or in built
Another PC on the network with a lot of storage

The setup procedure for this is:

On the network storage unit – create a shared directory where you want the video files to go. This is typically named “Coabis”
It should contain the required 3 sub directories as defined in section **v** (typically “routine”, “anoms” and “grabs”)

You then configure the Coabis PC to direct video and grabs to \\network_storage_IP\coabis with the appropriate subfolder.

e.g. – if the IP of the NAS box or server is 192.168.1.1, you would enter into Coabis:

\\192.168.1.1\coabis\anoms
\\192.168.1.1\coabis\routine
\\192.168.1.1\coabis\grabs

Permissions
It is vital that the DVRi has permission to write to the NAS box or server.
The DVRi units ship with
User = Administrator
Pwd = (no password)

If the NAS or Server uses different credentials for its Administrator login, then there will be a problem and no video files will be recorded. (You may get some .ssn files, but no .mpeg and no .pkt files)

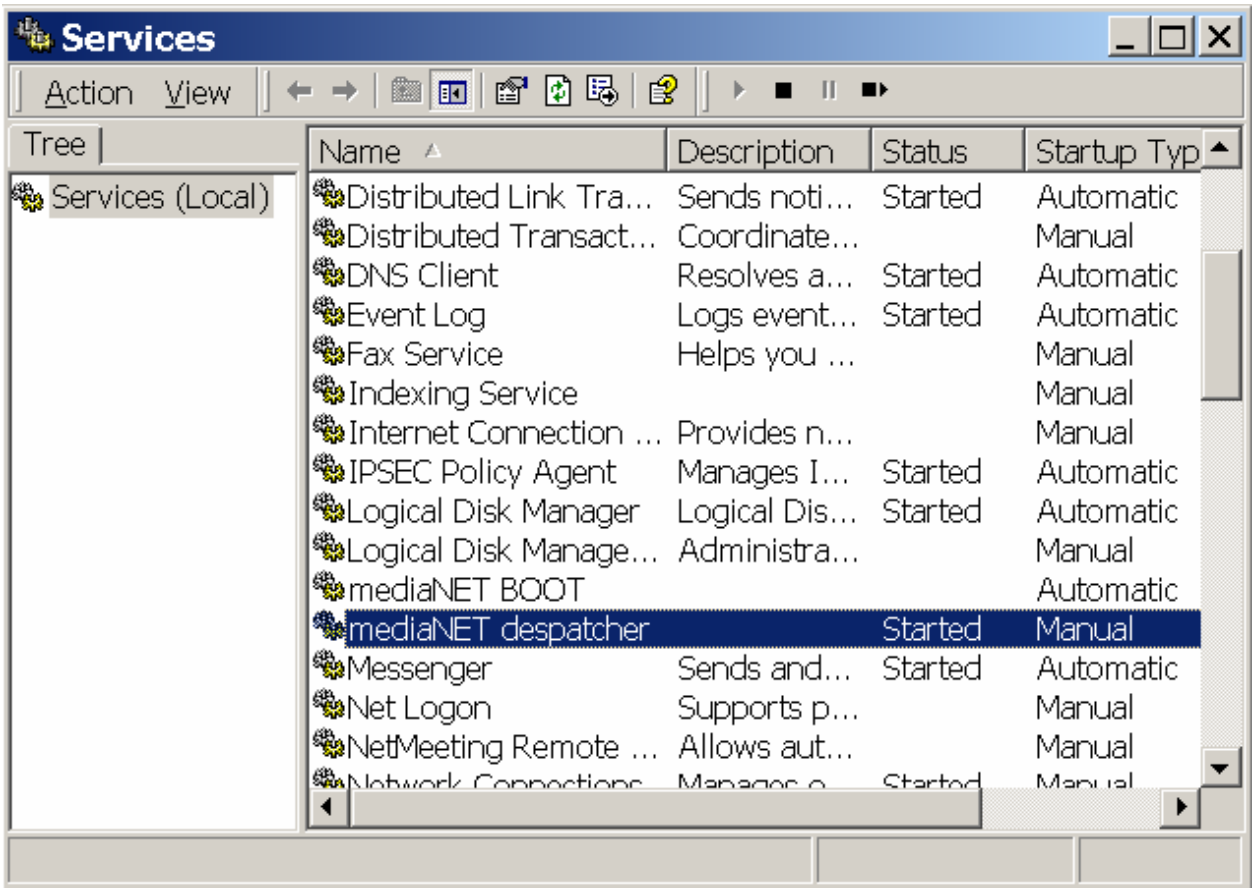
To solve this either:
- change the Administrator password on the NAS / server to blank
- or, change the logon settings of the mediaNET despatcher on the DVRi (see next section)

Appendix vii
mediaNET despatcher settings

To allow the DVRi to authenticate another server or storage device which does not have a logon of “Administrator” which has no password – it may be necessary to change the mediaNET despatcher settings on the DVRi.

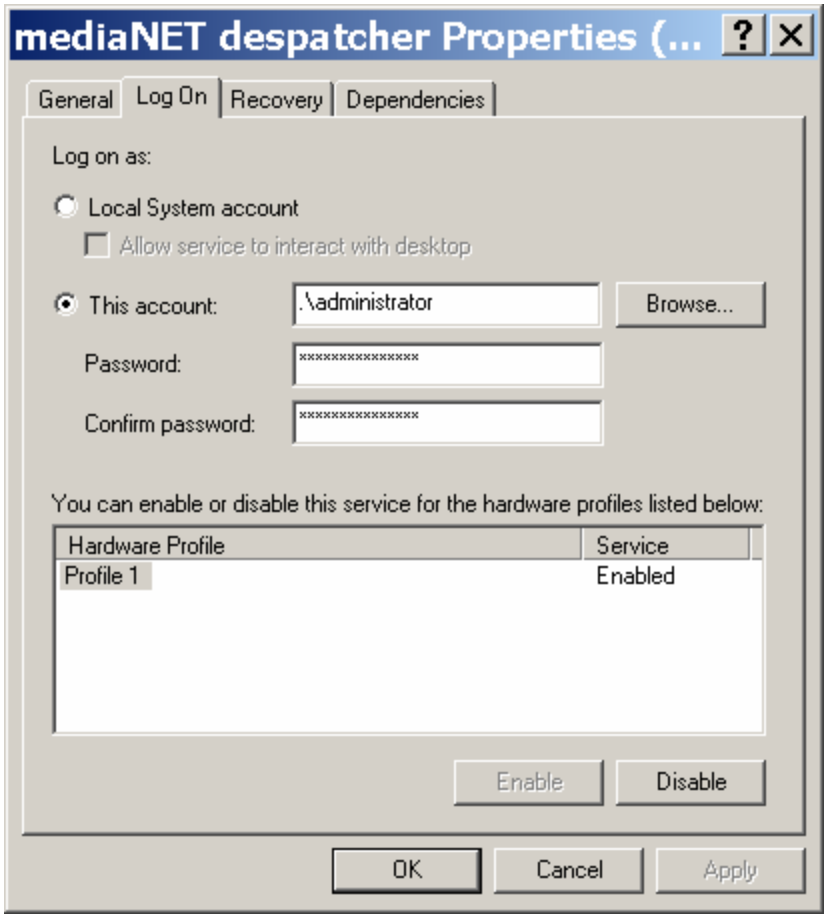
On the DVRi unit – close the DVRI application – and go to the windows 2000 “Control Panel”. From the “Administrative Tools” section, open “Services”

Scroll down the list unit you get to “mediaNET despatcher”



Right click on the mediaNET despatcher line and select “Properties”.

From the tabs – select “Log On”



Select the use “This Account” option – and enter the account username and password information which is authenticated to your remote storage device.

OK and accept these changes – and reboot the DVRi system.

This will now successfully log to the remote device.

Appendix viii
Real time file duplication

If network connections are not reliable – or if a user wishes to save data to 2 different locations simultaneously – it may be desirable to record video data to the local caddie drive on the DVRi – and also to another location on the network.

mediaNET despatcher can only log to 1 location at a time – but using other 3rd party tools – file synchronisation can be done between the DVRi and another storage device.

We can verify and confirm correct operation of these tools with our software and systems – currently, the products we have tested and are happy with are:

Robocopy

If you use any other utility, we will not be able to support you – so take care in your selection if you do not have IT support elsewhere.

Use of Robocopy:
You should download or be supplied a copy of Robocopy by our integrator.
Copy it to a directory on the DVRi (e.g. c:\robocopy)

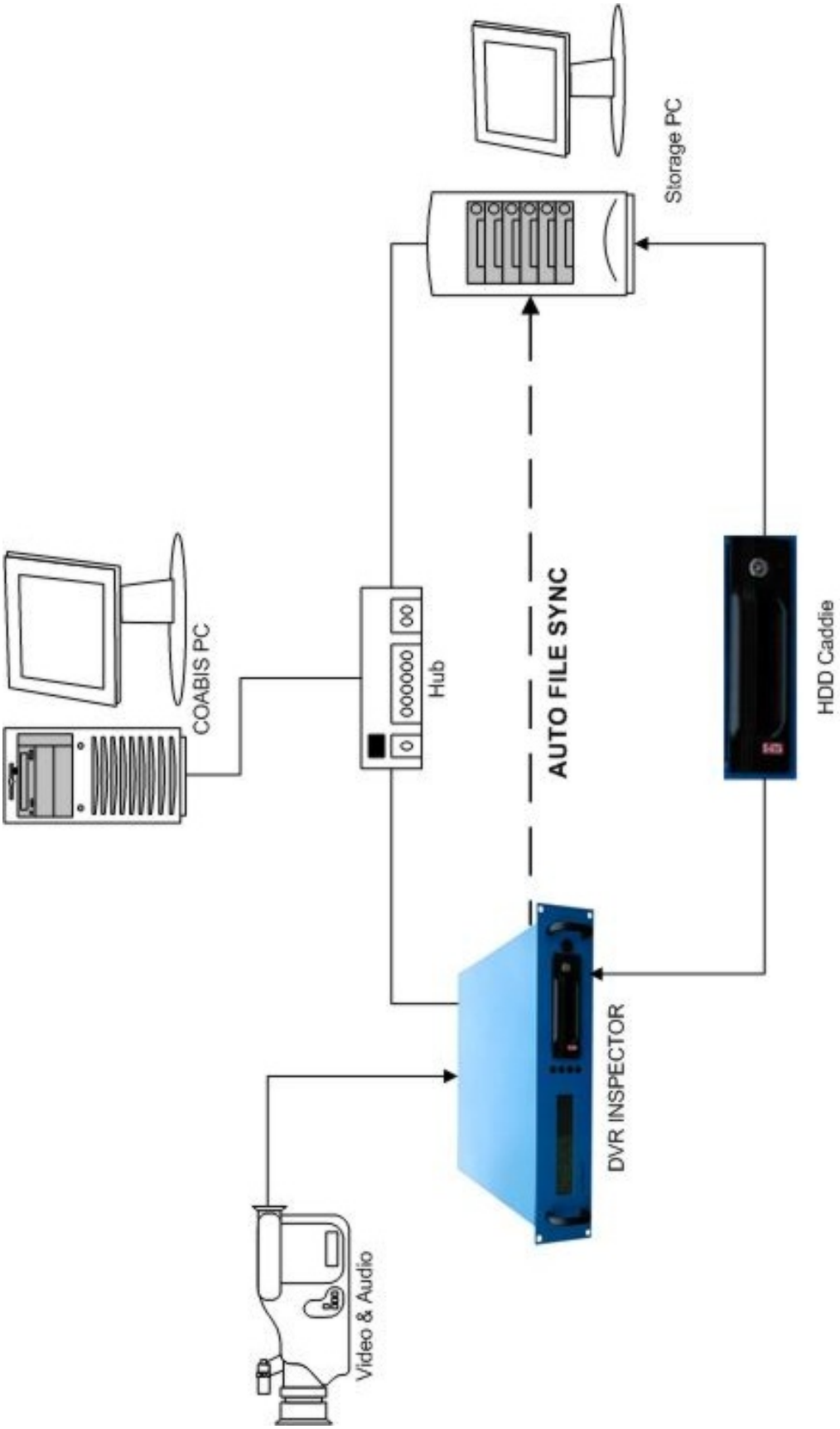
Create a .cmd file and configure it to run in the “startup” folder of windows.
The contents of the .cmd file should be:

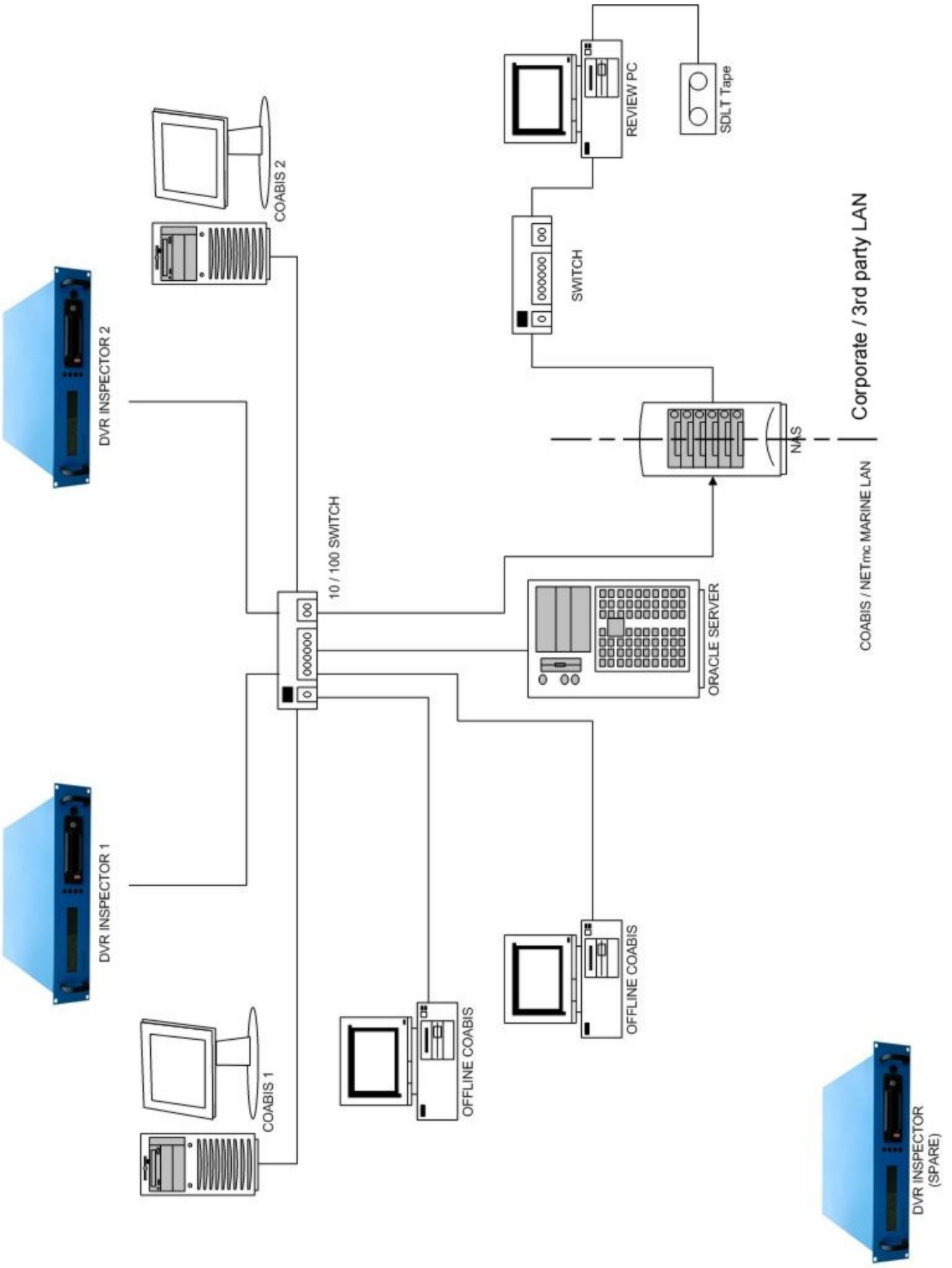
start " DV Sync" /min /low robocopy c:\video \\NAS_IP\backup /s /xo /m /mot:5 /mon:1 /tee /np /log+:c:\coabis\sync_log.txt /xf sync_log.txt

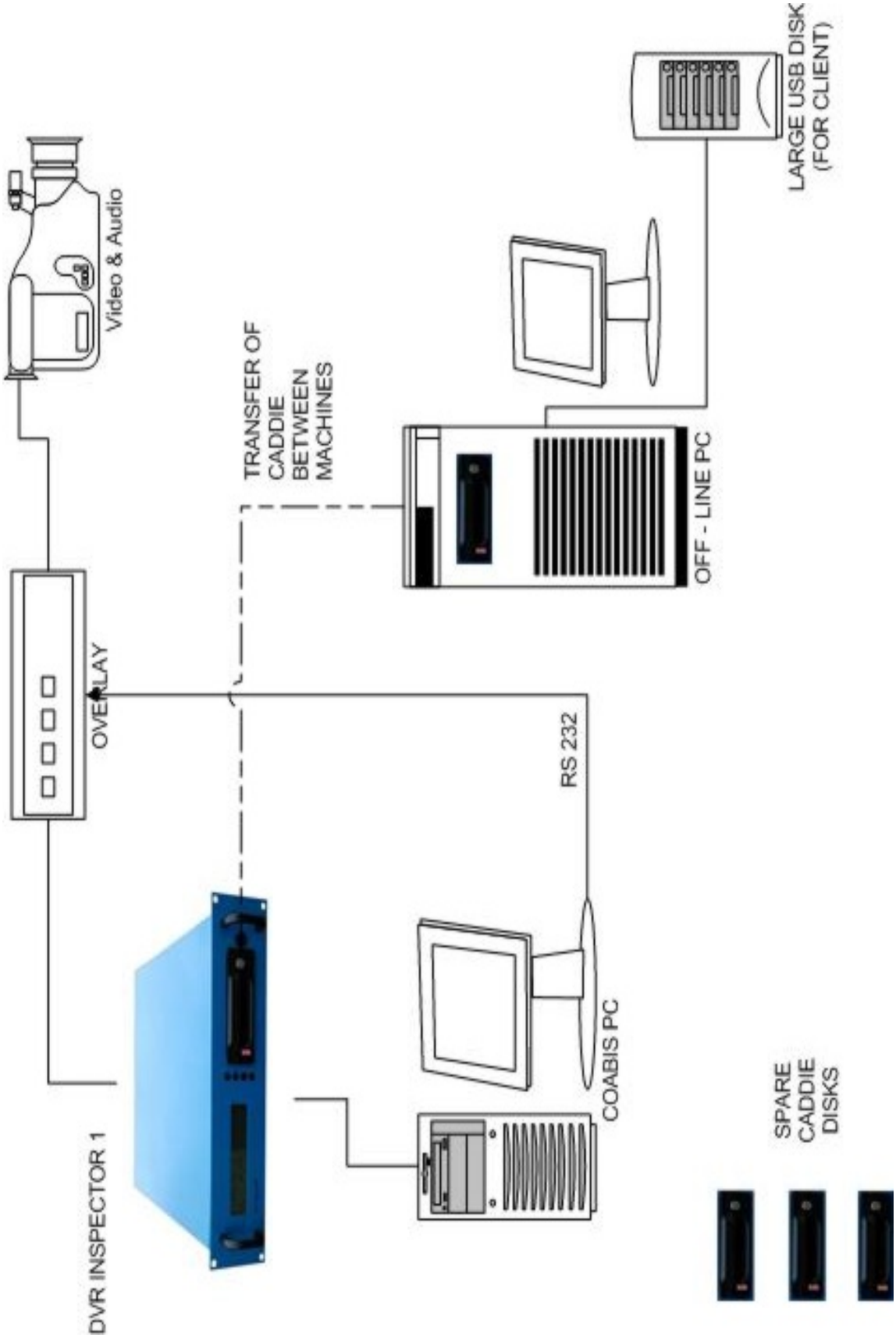
where c:\video is the path on the DVRi where the raw video is being initially saved and \\NAS_IP\backup is the share on the remote system where the data is being replicated

Robocopy.exe and sync.cmd can be downloaded from our website
www.netmcmarine.co.uk/file_downloads.htm

Appendix ix
Example Coabis interfacing diagrams




COABIS 2
REVIEW PC
SDLT Tape
SWITCH
Corporate / 3rd party LAN
DVR INSPECTOR 2
NAS
10 / 100 SWITCH
COABIS / NETmc MARINE LAN
ORACLE SERVER
DVR INSPECTOR 1
OFFLINE COABIS
COABIS 1
OFFLINE COABIS
DVR INSPECTOR
(SPARE)


LARGE USB DISK
(FOR CLIENT)
Video & Audio
TRANSFER OF
CADDIE
BETWEEN
MACHINES
OFF - LINE PC
OVERLAY
RS 232
COABIS PC
SPARE
CADDIE
DISKS
DVR INSPECTOR 1

Appendix x
Integrated Overlay configuration

DVRi units can now be shipped with optional integrated overlay / screenwriter.

The overlay is internal to the DVRi – but its connections are presented externally – allowing the user to by-pass if required.

To enable overlay – the input video signal should be first routed to “Overlay In” – and then from ‘Overlay Out’ to the regular video input to the DVRi (using the supplied BNC to BNC cable).

Composite Video
with Overlay

The overlay characters are generated by either using the overlay manager software from the DVRi screen – or by injecting serial comments into one of the overlay serial ports on the back of the DVRi.

Typically, this will be a cable to a Coabis, Scope or E-Inspect workstation on Serial 1 – while Serial 2 might be reserved for CP or other information.

The cable used should be a 9way female to 9way female NULL modem cable.

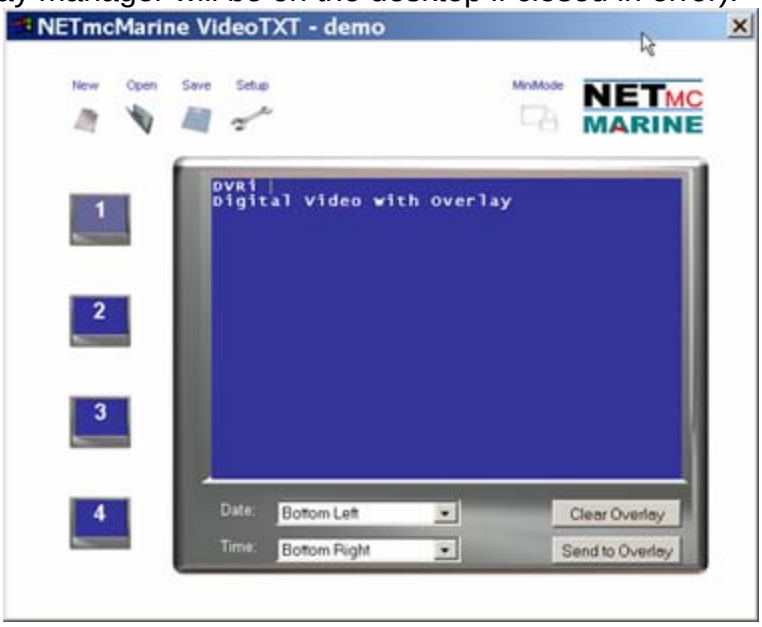
When using Coabis – from Site. tools, video overlay:

Use Screenwriter
Baud = 9600
Parity = none
Databits = 9
Stopbits = 1
Com Port = port used on the coabis PC

The internal overlay command structure follows the established industry standards – which can be summarised as:

Function	Hex Code	Dec Code	Key Code
Clear Screen	10	16	^P
Cursor Right	11	17	^Q
Cursor Up	12	18	^R
Cursor Down	13	19	^S
Cursor Left	14	20	^T
Home Cursor	15	21	^U
Line Feed	0A	10	^J
Carriage return	0D	13	^M
Enable All Screens	00	0	^@
Enable Screen 1	01	1	^A
Enable Screen 2	02	2	^B
Enable Screen 1 & 2	03	3	^C
Enable Screen 3	04	4	^D
Enable Screen 1 & 3	05	5	^E
Enable Screen 2 & 3	06	6	^F
Disable All Screens	07	7	^G
Enable Time / Date			
Top left			
Bottom left			
Top right			
Bottom right			

The overlay manager software will auto launch when the systems starts – and should be minimized (by clicking mini mode) when not in use.
(a shortcut for overlay manager will be on the desktop if closed in error).



The software allows insertion of time / date and any text.

Up to 4 pages of text can be configured and available for quick recall – by pressing the appropriate screen number. Pages can also be saved and opened – allowing for preset client specific configurations.

Overlay manager requires a link between the serial port of the DVRi and the chosen serial input of the overlay. A short cable has been supplied with the system – but a 'null modem' cable will be suitable.

Serial port	Overlay Serial Input
2	3
3	2
5	5

A typical time, date and header overlay:

If the overlay text is jumpy, the genloc is having trouble syncing to the input video signal. Check connections and signal levels (poor switchers etc). Line conditioning may be required if the video source is a VCR as their output is not generally compliant.

End of Document